Electronic TUBES

12AV7

TWIN TRIODE

DESCRIPTION AND RATING

The 12AV7 is a miniature, medium-mu twin triode for use as a radio-frequency amplifier or as a combined oscillator and mixer in VHF television receivers. It may also be used as an audio-frequency amplifier.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

	Series	Parallel	
Heater Voltage, AC or DC	12.6	6.3	Volts
Heater Current	0.225	0.45	Ampere

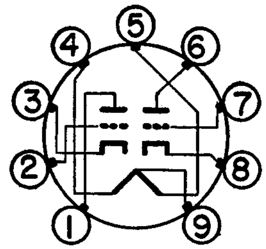
Direct Interelectrode Capacitances

	With Shield*	Without Shield	
Grid to Plate: (g to p), Each Section	1.9	1.9	μμf
Input: g to (h+k), Each Section	3.2	3.1	μμf
Output: p to (h+k), Section 1	1.3	0.5	μμf
Output: p to (h+k), Section 2	1.6	0.4	μμf
Heater to Cathode: (h to k), Each Section	4.0	3.8	μμf
Plate to Cathode: (p to k), Each Section	0.23	0.24	μμf
Grounded-Grid Input: k to (h+g), Each Section	7.0	6.9	μμf
Grounded-Grid Output: p to (h+g), Section 1	2.8	2.0	μμf
Grounded-Grid Output: p to (h+g), Section 2	3.2	2.0	μμf

MECHANICAL

Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

BASING DIAGRAM

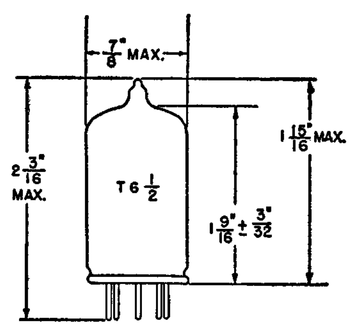


EIA 9A

TERMINAL CONNECTIONS

Pin 1—Plate (Section 2)
Pin 2—Grid (Section 2)
Pin 3—Cathode (Section 2)
Pin 4—Heater
Pin 5—Heater
Pin 6—Plate (Section 1)
Pin 7—Grid (Section 1)
Pin 8—Cathode (Section 1)
Pin 9—Heater Center-Tap

PHYSICAL DIMENSIONS



EIA 6-2

Supersedes ET-T1357 dated 1-56

MAXIMUM RATINGS

DESIGN-CENTER VALUES, EACH SECTION

Plate Voltage	300	Volts
Negative DC Grid Voltage	50	Volts
Plate Dissipation	2.7	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	90	Volts
Heater Negative with Respect to Cathode	90	Volts

Design-Center ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under normal conditions.

These values are chosen by the tube manufacturer to provide acceptable serviceability of the tube in average applications, taking responsibility for normal changes in operating conditions due to rated supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all tubes.

The equipment manufacturer should design so that initially no design-center value for the intended service is exceeded with a bogey tube in equipment operating at the stated normal supply-voltage.

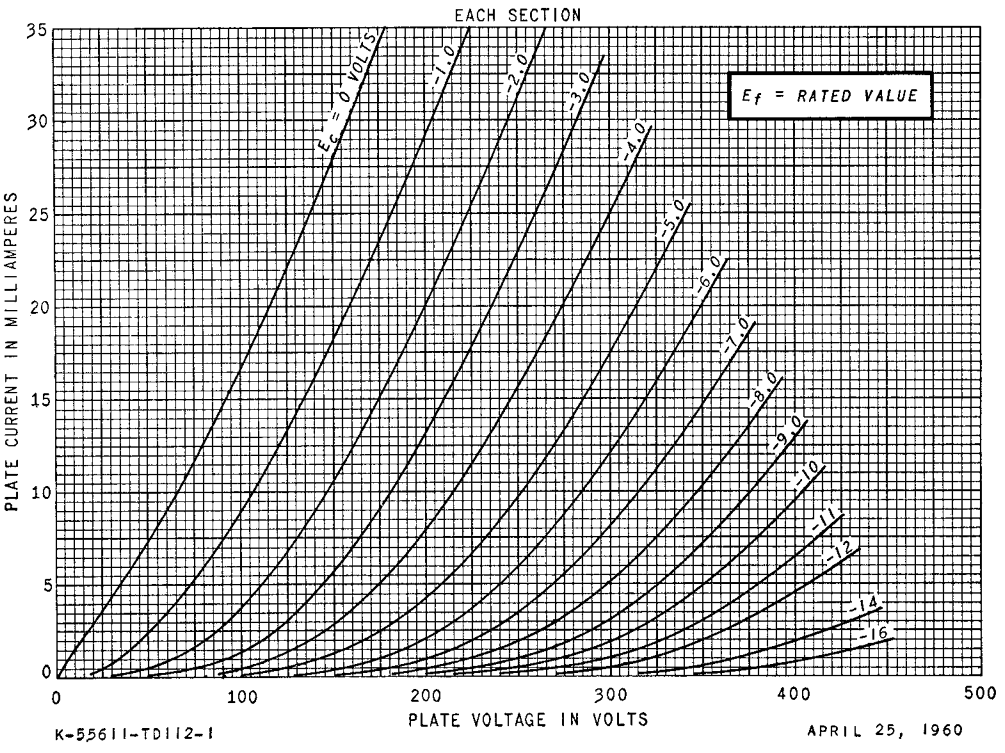
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS, EACH SECTION

Plate Voltage	100	150	Volts
Cathode-Bias Resistor	120	56	Ohms
Amplification Factor	37	41	
Plate Resistance, approximate	6100	4800	Ohms
Transconductance	6100	8500	Micromhos
Plate Current	9.0	18	Milliamperes
Grid Voltage, approximate			
Ib = 10 Microamperes	−9	−12	Volts

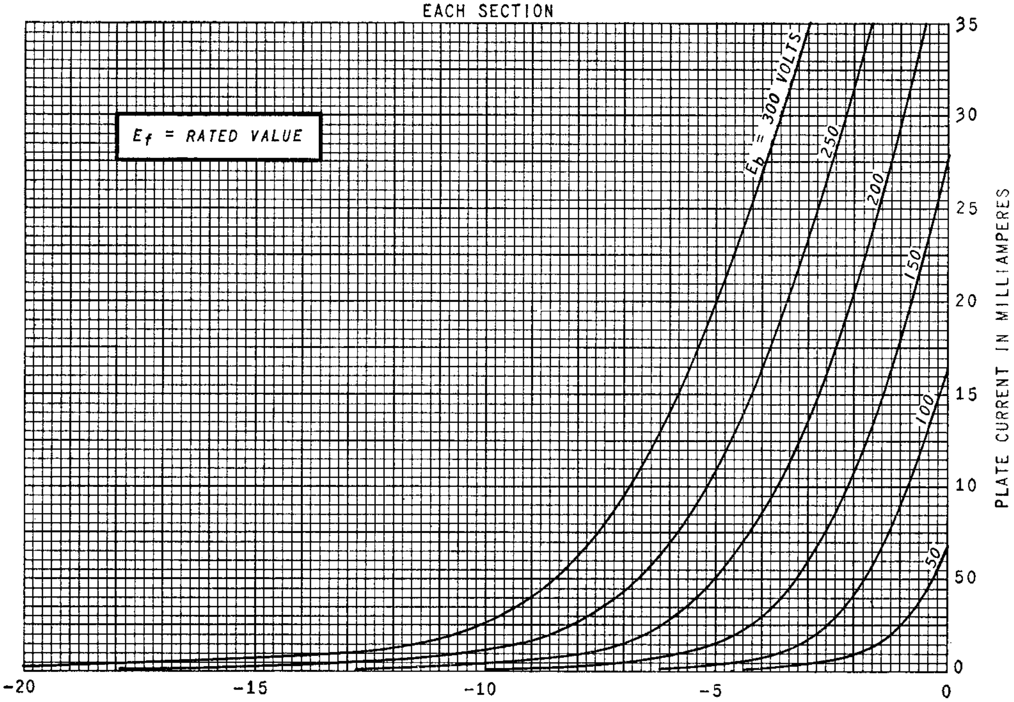
* With external shield (EIA 315) connected to cathode of section under test.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

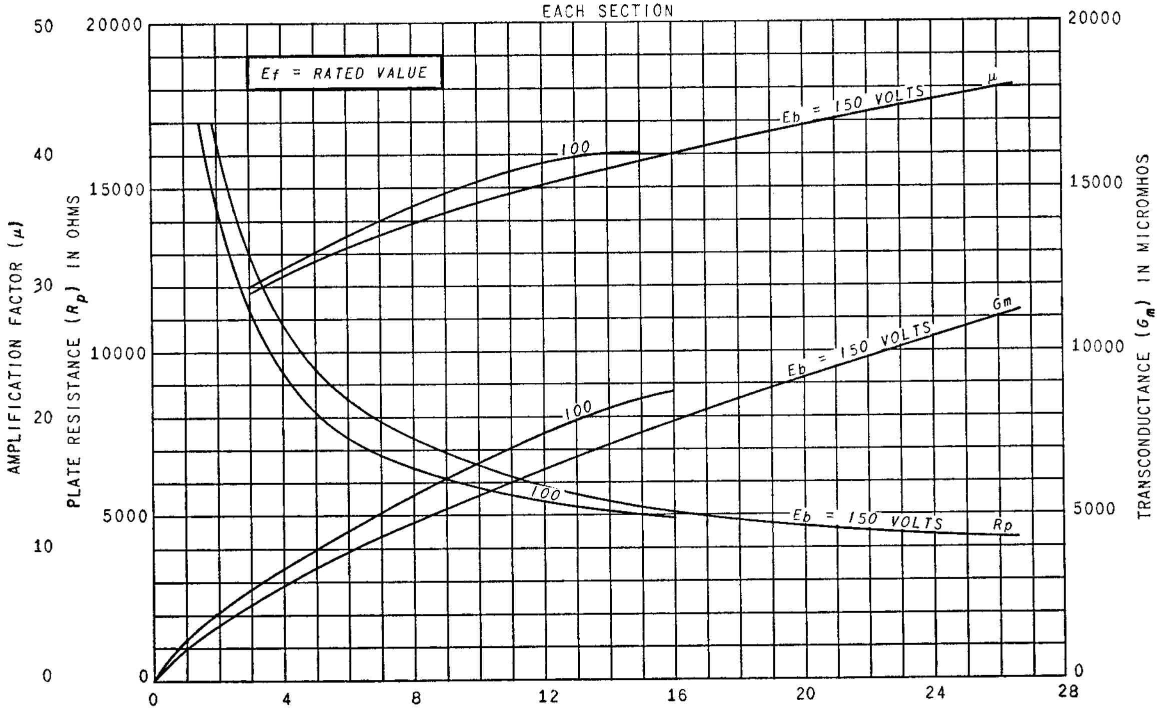
EACH SECTION



K-55611-TD112-2 APRIL 25, 1960

AVERAGE CHARACTERISTICS

EACH SECTION



K-55611-TD112-3 APRIL 25, 1960